

**"IMPLEMENTATION OF THE
BOSTON UNIVERSITY SPACE PHYSICS ACQUISITION CENTER"**

Principal Investigator:
Institution:

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Boston University

IN - 62 - CR
003577

NASA/CR - 96 - 207473

OVERVIEW

The tasks carried out during this grant achieved the goals as set forth in the initial proposal. The **Boston University Space Physics Acquisition Center (BUSPACE)** now provides World Wide Web access to data from a large suite of both space-based and ground-based instruments, archived from different missions, experiments, or campaigns in which researchers associated with the Center for Space Physics (CSP) at Boston University have been involved. These archival data sets are in digital form and are valuable for retrospective data analysis studies of magnetospheric as well as ionospheric, thermospheric, and mesospheric physics. We have leveraged our grass-roots effort with the NASA seed money to establish dedicated hardware (computer and hard disk augmentation) and student support to grow and maintain the system. This leveraging of effort now permits easy access by the space physics community to many underutilized, yet important data sets, one example being that of the SCATHA satellite.

PROJECT DESCRIPTION

A complete list of the data and data products archived within the **BUSPACE**, that are available through our system is beyond the scope of this brief document. We note that the system is already in place and presently incorporates much of the background information regarding the various missions, instrumentation, and data sets; this information can thus be perused at your convenience. We invite you to explore **BUSPACE**; the URL is <http://buspace.bu.edu/BUSPACE/welcome.html>. A copy of the homepage and the summary information as well as the interface developed for access to the SCATHA data sets are shown on the pages at the end of this report.

The present **BUSPACE** hierarchy and functionality is self explanatory and intuitive. Satellite, sounding rocket, and ground-based missions and campaigns are listed in separate sections on the data center

homepage. In the current **BUSPACE**, data sets derive from either past, present, or upcoming missions; this proposed effort is responsive to the archival data that are not readily available elsewhere. Each subsection includes overviews of the missions or programs and provides detailed instrument descriptions and the data sets affiliated with each instrument. The format of the data is also described in detail including, for example, data availability (start/end dates, data gaps, etc). The user can access any particular data section or subsection directly by entering the appropriate URL, thus providing more flexibility to the frequent user.

We provide data access in two ways: *.gif files and on-line data browsing. The *.gif files format allows the user to display rapidly *.gif files containing data previously analyzed and "blessed" by the Principal Investigator (PI) in charge of the particular program. These files will form a continuum of events with a prescribed time interval assigned by the PI. The on-line data browsing format provides an excellent tool for the user to look at any particular data within any particular interval. As appropriate, the user has the option to select a desired type of plot, (i.e. differential flux, magnetic field intensity, etc.) for the desired time interval. The visuals are patterned after the interface developed at LANL for the highly-visited Magnetospheric On-Line Data (MOLD) WWW page, which provides a highly flexible tool for the direct access to and analysis of on-line data.

The preliminary development of **BUSPACE** was entirely sponsored by the CSP at BU and the bulk of the design and implementation have been carried out by undergraduate and graduate students involved with research projects within the Center. The additional NASA support has allowed us to leverage the present institutional and volunteer support and provide the archival data as a service to the community. We were in the need of hard disk space to store the data sets and one person, preferably an undergraduate work-study student, to maintain the effort; these funds were provided by NASA to make the project happen.

FINAL SUMMARY

In summary, we established **BUSPACE** as a "grass-roots" data center that gave our communities access to both ionospheric and magnetospheric data. With NASA funding we have continued and expanded this effort.

APPENDICES:

(1) **BUSPACE** HOMEPAGE

(2) **SCATHA** HOMEPAGE

(3) **SCATHA** DATA BROWSER CGI INTERFACE PAGE

(4) **SAMPLE SCATHA DATA SURVEY PLOT - VECTOR MAGNETIC FIELD (GSM Coordinates)**
FROM 4/1/79 0:00 - 0:600 UT



Welcome to the Boston University Space Physics Acquisition Center. **BUSPACE** provides data acquired from the missions, experiments, and instruments which involved the Boston University Center for Space Physics faculty. This node of the Space Physics Data System exists to provide access to space physics phenomena found in the Earth's atmosphere by a variety of rockets, spacecrafts, and groundbased equipment.



Cluster: Please see the [European Space Agency Press Release](#) for more information. As of July 4th, the Science Policy Committee has approved the immediate start of a fifth Cluster spacecraft as the first of a new "fleet to the magnetosphere". Decision about remaining spacecrafts is to be taken later this year.

GO POLAR GO! At 3:24 AM PST, on February 24th 1996, the Polar spacecraft roared into space atop a MacDonald Douglas Delta II ELV from Vandenberg AFB, CA. The Delta II booster performed near perfectly and placed POLAR into its desired orbit. The orbital parameters were rapidly assessed by both the Antarctic and Madrid ground receiving sites. The spacecraft antennas have been deployed and satellite status is nominal.

This page has been Netscape enhanced. Go to [Netscape's Home Page](#) for their latest browser.

AREAS OF INTEREST

<http://buspace.bu.edu/BUSPACE/welcome.html>

GROUND BASED

1. All-Sky Imaging at Several Sites World Wide
2. Combined H-Alpha Radar Measurements (CHARM)
3. Jovian Sodium Magneto-Nebula Images
4. Lunar Extended Sodium Atmosphere Images
5. Magnetometer Array for Cusp and Cleft Studies (MACCS)

ROCKETS

1. Berkeley EUV Airglow Rocket Spectrometer (BEARS)
2. CUHS
3. ERIC
4. JOHANNA
5. PEGSAT
6. PULSATING AURORA II (PULSAUR II)
7. RED AIR 1&2
8. SPINEX 1&2

SATELLITES

1. Applications Technology Satellite 6 (ATS-6)
2. Cluster
3. Combined Release and Radiation Effects Satellite (CRRRES)
4. ECOM-721
5. International Sun-Earth Explorer 1&2 (ISEE 1 & 2)
6. Injun 3
7. OGIO-4
8. Polar
9. Spacecraft Charging AT High Altitude (SCATHA)
10. Tomographic Experiment using Radiative Recombinative EUV and Radio Sources (TERRIERS)
11. TIROS-NOAA

FUTURE MISSIONS

1. COTIF

<http://buspace.bu.edu/BUSPACE/welcome.html>

Spacecraft Charging AT High Altitude (SCATHA)



- SCATHA Fact Sheet
- Spacecraft position overviews
- SC2.3 Electron Detector Efficiency

MISSION OVERVIEW

EXPERIMENTS

<http://buspace.bu.edu/BUSPACE/SCATHA/scatha.html>

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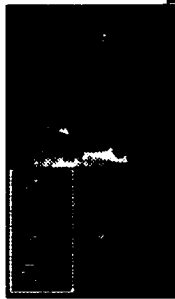
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DATA DISPLAYS

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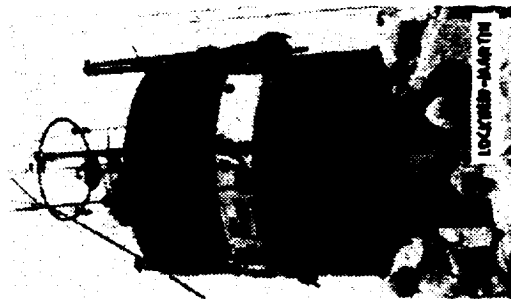
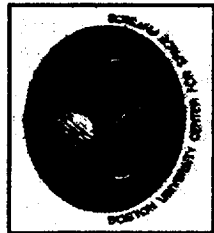
BUSPACE

You are visitor

Please mail any questions regarding data availability to either [Hurlin Spence](#) or [Joe Fennell](#)
Please mail any questions or comments concerning this website to [Scott Thompson](#)

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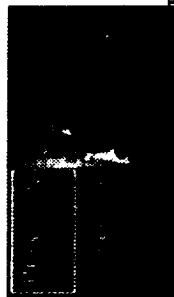
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DATA DISPLAYS

RELATED PAGES



NASA Home Page



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<http://buspace.bu.edu/BUSPACE/SCATHA/scatha.html>

SCATHA Data Plot Choices

[Click here for a listing of suspect data](#)

Data plots are available for months that are blinking.
Request plots using the form below.

Please note that data gaps do exist within individual months

1979	Jan											
1980				Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981	Jan				May	Jun		Aug				
1982												
1983												
1984						Jun						
1985		Feb			May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1986	Jan	Feb					Jul	Aug	Sep	Oct	Nov	Dec
1987	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Year	Month	Day	Data_Type	Time_Range
<input checked="" type="radio"/> 1979 <input type="radio"/> 1980 <input type="radio"/> 1981 <input type="radio"/> 1982 <input type="radio"/> 1983 <input type="radio"/> 1984 <input type="radio"/> 1985 <input type="radio"/> 1986	<input checked="" type="radio"/> January <input type="radio"/> February <input type="radio"/> March <input type="radio"/> April <input type="radio"/> May <input type="radio"/> June <input type="radio"/> July <input type="radio"/> August <input type="radio"/> September <input type="radio"/> October <input type="radio"/> November <input type="radio"/> December	<input checked="" type="radio"/> 01 <input type="radio"/> 02 <input type="radio"/> 03 <input type="radio"/> 04 <input type="radio"/> 05 <input type="radio"/> 06 <input type="radio"/> 07 <input type="radio"/> 08 <input type="radio"/> 09 <input type="radio"/> 10 <input type="radio"/> 11 <input type="radio"/> 12 <input type="radio"/> 13 <input type="radio"/> 14 <input type="radio"/> 15 <input type="radio"/> 16 <input type="radio"/> 17 <input type="radio"/> 18 <input type="radio"/> 19 <input type="radio"/> 20 <input type="radio"/> 21 <input type="radio"/> 22 <input type="radio"/> 23 <input type="radio"/> 24 <input type="radio"/> 25 <input type="radio"/> 26 <input type="radio"/> 27 <input type="radio"/> 28 <input type="radio"/> 29 <input type="radio"/> 30 <input type="radio"/> 31	<input checked="" type="radio"/> Electron Differential Flux <input type="radio"/> Electron Integral Flux <input type="radio"/> Electron Moments <input type="radio"/> Proton Differential Flux <input type="radio"/> Proton Integral Flux <input type="radio"/> Proton Moments <input type="radio"/> ELF Magnetic Field <input type="radio"/> VLF Magnetic Field <input type="radio"/> Vector Magnetic Field(GSM)	<input checked="" type="radio"/> 00 hours - 06 hours <input type="radio"/> 06 hours - 12 hours <input type="radio"/> 12 hours - 18 hours <input type="radio"/> 18 hours - 24 hours

Return to [SCATHA](#).
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Return to the [Center for Space Physics Home Page](#).



01 April 1979

Vector Magnetic Field (GSM) 00:00:00 - 06:00:00

